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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,736	07/28/2005	Kentaro Tomii	0987/0203042-US0	9152
7278	7590	07/26/2006	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			DESTA, ELIAS	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,736	<b>Applicant(s)</b> TOMII, KENTARO	
	<b>Examiner</b> Elias Desta	<b>Art Unit</b> 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## Detailed Action

### Drawing

1. The drawing is objected to because of the following minor informalities:

- Fig. 1: Label 109 as to function.

### Specification

2. The specification is objected to because of the following minor informalities:

- Table 3: in page 4, raw entry needs to be labeled as 'Local 2' rather than a numeric title since it creates ambiguity with the statistical values listed in the table. Correction is required.

### Claim Objection

3. Claims 1-4 are objected to because of the following minor informalities:

- Claim 1: page 28, line 6: insert the word 'of' after the word "probabilities".
- Claims 1 and 3 respectively recites the limitation "the similarity" in page 28, lines 3 and 28 and "said profile matrix" in lines 5 and 30. There are insufficient antecedent basis for these limitations in the claims.

### Claim rejection – 35 U.S.C. 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-4 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The program by itself is not enabling the computer to function as a system; only “when functional descriptive material is recorded on some computer-readable medium [that] it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized”.

In reference to claims 1 and 2, the “means” corresponds to computer software, such as a dynamic programming noted in page 5 of the instant specification, which is used, that helps process the two amino acid sequences. The claims are therefore treated as the equivalent of method claims. As such, the claims lack a physical transformation, or a useful, concrete and tangible result.

In reference to claims 3 and 4, “[an executable] program [embodied a computer-readable medium] for enabling a computer to function as a system for measuring the similarity between protein profile matrices” would be statutory for the purposes of examination.

### Conclusion

6. Citation of pertinent prior art:

- Pazos et al. (CABIOS Application Note, 'A Graphical Interface for Correlated Mutations and Other Protein Structure Prediction Methods') teaches an overview of a graphical interface for the presentation of different types of structural predictions derived from sequence information.
- Holm et al. (Nucleic Acid Research, 'Dali/FSSP Classification of Three-Dimensional Protein Folds') teaches an overview of FSSP database which presents a continuously updated structural classification of three-dimensional protein folds which is derived using an automatic structure comparison program (Dali) for all against-all comparison of several three-dimensional coordinate sets in a protein data bank.
- Adams et al. (Iowa State University, 'A New Method for Evaluating the Structural Similarity of Proteins Using Geometric Morphometrics') teaches a method to quantify similarity among proteins.
- Afeyan et al. (U.S. PAP 2005/0170372) teaches method and system for profiling biological systems.
- Braun et al. (U.S. Patent 6,321,164) teaches method and apparatus for predicting the presence of an abnormal level of one or more proteins in the clotting cascade.

- Eisenberg et al. (U.S. Patent 5,436,850) teaches method to identify protein sequences that fold into a known three-dimensional structure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Th (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Elias Desta

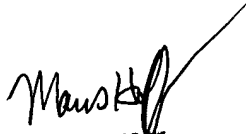
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Art Unit: 2857

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Examiner  
Art Unit 2857

- E.d.

July 17, 2006

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800